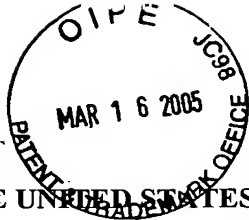


Docket No. 264453 US0PCT



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DT08 Recd PCT/PTO 16 MAR 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Peter BASSLER, et al.

SERIAL NO: 10/521,467

GAU:

FILED: January 18, 2005

EXAMINER:

FOR: CONTINUOUS PREPARATION OF PROPYLENE GLYCOLS

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

Norman F. Oblon

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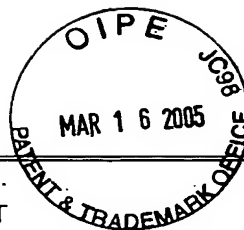
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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 264453US0PCT		SERIAL NO. 10/521,467	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Peter BASSLER, et al.			
				FILING DATE January 18, 2005		GROUP	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	4 937 393	06/26/90	MASUDA, Takayoshi et al.			
	AB	2 471 134	05/24/49	WRIGHT, Richard O.			
	AC	4 230 533	10/28/80	GIROUX, Victor A.			
	AD						
	AE						
	AF						
	AG						
<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AH	00/07965	02/17/00	WO (with English abstract & equivalent of US 6479680)			NO
	AI	0 031 537	07/08/81	EP			NO
	AJ	2 068 408	08/12/81	GB			NO
	AK	0 780 147	06/25/97	EP			NO
	AL	100 22 465	11/15/01	DE (equivalent of US 2003/181772)			NO
	AM	101 05 527	08/08/02	DE (equivalent of US 2004/0068128)			NO
	AN	99/31034	06/24/99	WO			NO
	AO	0 122 367	10/24/84	EP			NO
	AP	0 133 510	02/27/85	EP (equivalent of CA 1222717)			NO
	AQ	0 126 288	11/28/84	EP (equivalent of CA 1242309)			NO
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
	AR	ELM, Rainer et al. "Propandiole", Ullmann's Encyclopaedie der Technischen Chemie, 4 <sup>th</sup> edition, vol. 19, pages 425-432					
	AS	KAIBEL, Gerd. "Distillation Columns with Vertical Partitions", Chem. Eng. Technol., vol. 10, pages 92-98 1987					
	AT	KAIBEL, Gerd et al. "Gestaltung destillativer Trennungen unter Einbeziehung thermodynamischer Gesichtspunkte", Chem.-Ing. Tech., vol. 61, no. 1, pages 16-25, with English abstract 1989					
	AU	KAIBEL, G. et al. "Thermodynamics- guideline for the development of distillation column arrangements", Gas Separation & Purification, vol. 4, pages 109-114 1990					
	AV	"Designs on Mixing", Process Engineering, vol. 2, pages 33-34 1993					
	AW	LESTAK, F. et al. "Heat Transfer Across the Wall of Dividing Wall Columns", Trans IChemE, vol. 72, Part A, pages 639-644 1994					
	AX	LESTAK, Frigyes et al. "Advanced Distillation Saves Energy & Capital", Chemical Engineering, vol. 7, pages 72-76 1997					
	AY	"Hydrogen Peroxide", Ullmann's Encyclopedia of Industrial Chemistry 5 <sup>th</sup> edition, vol. A13, pages 447-456					<input type="checkbox"/> Additional References sheet(s) attached
Examiner					Date Considered		
<p>*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>							



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### STATEMENT OF RELEVANCY

- 1) References AA, AH-AL have been cited in the International Search Report. Copies of these references are being submitted herewith only when not automatically provided by the International Searching Authority.
- 2) References \_\_\_\_\_ have been cited in the corresponding \_\_\_\_\_ Search Report. A copy of these references is being submitted herewith.
- 3) References AB, AC, AM-AY are discussed in the specification. A copy of these references is being submitted here with.
- 4) References \_\_\_\_\_ are additional prior art known to Applicant. A copy of these references is being submitted herewith.

#### EP 0 122 367

In the column for the separation by distillation of feed product entering the distillation column at the feed point consisting of several fractions, into a pure top fraction and a pure bottom fraction and several, preferably one or two, medium-boiling fractions in the boiling range between the top fraction and bottom fraction and free or largely free of contamination by top and bottom fractions, partition devices acting in the longitudinal direction to prevent cross-mixing of liquid streams and/or vapour streams are arranged in a part region of the distillation column below and/or above the feed point and divide the distillation column into a feed section, where the feed product enters, and a take-off section, from which the medium-boiling fractions emerge, and the partition devices acting in the longitudinal direction are taken along such a number of separation stages that medium-boiling fractions free or largely free from contamination by top fractions and bottom fractions can be taken off in the take-off section.

#### EP 0 133 510

A process for separating a mixture which is azeotropic or behaves almost azeotropically and is difficult to separate by distillation, into two pure or substantially pure fractions by distillation, by adding a further component, using a procedure which is similar to extractive distillation and is carried out in a distillation column, a section of which is

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## STATEMENT OF RELEVANCY

EP 0 133 510 cont.

- divided into a feed part and a take-off part by a separating means which is effective in the longitudinal direction and prevents cross-mixing of liquid streams and/or vapor streams, wherein the azeotropic mixture is fed in part-streams to the feed part and to the take-off part, in each case at or near the top, and one of the two pure or substantially pure fractions is removed as overhead product from the distillation column, and the other fraction is removed as side product from the take-off part, the side product passing from the feed part into the take-off part only at the lower end of the separating means.

EP 0 126 288

A method of carrying out a chemical reaction and simultaneously separating a product mixture into several fractions by means of a distillation column which, in parts, is divided into a reaction section and a distillation section by separating means which are effective in the longitudinal direction and prevent cross-mixing of liquid and/or vapor streams, wherein two or more reactants and, where relevant, a catalyst are fed into the reaction section (3), and at the same time one or more medium-boiling fractions, which can consist of reactants and/or reaction products and are free, or substantially free, from contamination by overhead and bottom fractions, are taken off in vapor or liquid form from the distillation section (4).

EP 0 031 537

Process for the preparation of oxiranes from olefines and hydrogen peroxide in the presence of orthoboric acid, characterized in that a) an olefine of the general formula see diagramm: EP0031537,P8,F1 wherein R1, R2, R3, and R4 independently of one another denote hydrogen, C1- to C30 -alkyl, C1 -to C15 -alkenyl, C3 -C1 -cycloalkyl, phenyl or naphthyl, and/or wherein R1 and R2 can be linked to one another by a hydrocarbon chain with up to 12 carbon atoms, and/or wherein R1 and R3, together with the double bond to be epoxidized can form a mono-di- or tri-cyclic ring system with up to 12 carbon atoms, and wherein R1, R2, R3, and R4 can optionally contain as substituents C1 - to C4 -alkyl, C3 -to C6 -cycloalkyl, C1 - to C4 - alkenyl, phenyl, C1 - to C4 -alkoxy, hydroxyl, carboxyl or halogen, there being at least one further carbon atom between the carbon atom which contains alkoxy, hydroxyl, carboxyl or halogen, as a substituent and the double bond to be epoxidised, is reacted with a solution, containing less than 0,1% by weight of water, of hydrogen peroxide in a solvent at a temperature of 30 to 110 degrees C and for a reaction time which, depending on the reactivity of the olefin introduced, is between 15 minutes and 5 hours, b) the oxirane formed and the unreacted olefine are separated off, c) the amount of hydrogen peroxide which has been consumed during

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### STATEMENT OF RELEVANCY

EP 0 031 537 cont.

the reaction is added to the reaction mixture before, during and/or after separating off the oxirane and olefine, d) after carrying out steps b) and c), the water is largely removed from the reaction mixture and e) the resulting solution, containing less than 0.1% by weight of water, of hydrogen peroxide and orthoboric acid in the solvent is reacted again with the olefine.

EP 0 780 147

The process is for the control of a partitioned or a thermally coupled distillation column for separating a feed mixture into three fractions, where the feed mixture is introduced into the middle of the column and a volatile fraction, a medium volatility fraction and a high boiling fraction are removed from the top, the middle, and the bottom of the column respectively. Measurements of concentration are obtained at specific points in the vicinity of the longitudinal partition of the column by direct or indirect measuring techniques, and the measurements are used to form control interfaces. The control strategy is organised into two levels of hierarchy, whereby the control interfaces of the second hierarchy do not influence those of the first. Also claimed is a partitioned or thermally coupled distillation column having measuring points located at points determined in accordance with the requirements of the above process.